

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in this application.

1-22. (Previously Canceled)

23. (Currently Amended) A line terminating device for reception-path-end separation of an analog first broadband signal, which is transmitted via a telephone subscriber access line[[s]], firstly to a low-frequency, narrowband first voice signal and secondly to a broadband first data signal, which is at a higher frequency than the first voice signal, by a reception path and for joining together, at the transmission-path end, firstly a low-frequency, narrowband second voice signal and secondly a broadband second data signal, which is at a higher frequency than the second voice signal, to form an analog second broadband signal which can be transmitted via this telephone subscriber access line in the transmission direction, by a transmission path,

(a) wherein the transmission path comprises

a1) a digital frequency splitter, which joins together the second voice signal, which is in digital form, and the second data signal, which is in digital form, to form a digital transmission signal, and

a2) a digital-to-analog converter being preceded by the digital frequency splitter, which converts the digital transmission signal to the analog second broadband signal to be transmitted in the transmission direction,

(b) wherein the reception path, which carries the first analog broadband signal,

b1) is subdivided into an analog path for voice signals and a path, which is separate from this, for data signals,

b2) wherein an analog-to-digital converter is provided at the end of each of these two paths for conversion to respectively corresponding digital signals, and

b3) wherein a balance filter, which is driven by the second analog broadband signal, is arranged between the transmission path after the output of the digital-to-analog converter and the subtraction input of a subtraction element, which is connected upstream of the analog-to-digital converter in the separate analog data signal path of the reception path.

24. (Previously Presented) The line terminating device as claimed in claim 23, wherein at least one of the two analog-to-digital converters is preceded by a circuit for automatic gain control of the received analog signals.

25. (Previously Presented) The line terminating device as claimed in claim 23, wherein the balance filter to be used may be in analog or digital form.

26. (Previously Presented) The line terminating device as claimed in claim 23, wherein a digital high-pass filter, which can be switched off, is provided following the analog-to-digital converter in the path which is responsible for data signals.

27. (Previously Presented) The line terminating device as claimed in claim 23, wherein the analog-to-digital converters are followed by means for digitally filtering out the first digital voice signal and the first digital data signal.

28. (Previously Presented) The line terminating device as claimed in claim 24, wherein the analog-to-digital converters are followed by means for digitally filtering out the first digital voice signal and the first digital data signal.

29. (Previously Presented) The line terminating device as claimed in claim 25, wherein the analog-to-digital converters are followed by means for digitally filtering out the first digital voice signal and the first digital data signal.

30. (Previously Presented) The line terminating device as claimed in claim 26, wherein the analog-to-digital converters are followed by means for digitally filtering out the first digital voice signal and the first digital data signal.

31. (Previously Presented) The line terminating device as claimed in claim 23, wherein a low-pass filter is arranged upstream of the analog-to digital converter in the separate analog voice signal path of the reception path.

32. (Previously Presented) The line terminating device as claimed in claim 24, wherein a low-pass filter is arranged upstream of the analog-to digital converter in the separate analog voice signal path of the reception path.

33. (Previously Presented) The line terminating device as claimed in claim 23, wherein the digital-to-analog converter arranged in the transmission path is followed by a power adaptation circuit for adaptation of the spectral power distribution.

34. (Currently Amended) A line terminating device for reception-path-end separation of an analog first broadband signal, which is transmitted via a telephone subscriber access line[[s]], firstly to a low-frequency, narrowband first voice signal and secondly to a broadband first data signal, which is at a higher frequency than the first voice signal, by a reception path and for joining together, at the transmission-path end, firstly a low-frequency, narrowband second voice signal and secondly a broadband second data signal, which is at a higher frequency than the second voice signal, to form

an analog second broadband signal which can be transmitted via this telephone subscriber access line in the transmission direction, by a transmission path,

(a) wherein the transmission path comprises

a1) a digital frequency splitter comprising a digital low-pass filter for filtering the second voice signal and a digital high-pass filter for filtering the second data signal, wherein the digital frequency splitter joins together the second voice signal, which is in digital form, and the second data signal, which is in digital form, to form a digital transmission signal, and

a2) a digital-to-analog converter being preceded by the digital frequency splitter, which converts the digital transmission signal to the analog second broadband signal to be transmitted in the transmission direction,

(b) wherein the reception path, which carries the first analog broadband signal,

b1) is subdivided into an analog path for voice signals and a path, which is separate from this, for data signals,

b2) wherein an analog-to-digital converter is provided at the end of each of these two paths for conversion to respectively corresponding digital signals, and

b3) wherein a balance filter, which is driven by the second analog broadband signal, is arranged between the transmission path after the output of the digital-to-analog converter and the subtraction input of a subtraction element, which is connected upstream of the analog-to-digital converter in the separate analog data signal path of the reception path.

35. (New) A line terminating device for reception-path-end separation of an analog first broadband signal, which is transmitted via a telephone subscriber access line, firstly to a low-frequency, narrowband first voice signal and secondly to a broadband first data signal, which is at a higher frequency than the first voice signal, by a reception path and for joining together, at the transmission-path end, firstly a low-frequency, narrowband second voice signal and secondly a broadband second data signal, which is at a higher frequency than the second voice signal, to form an analog second broadband signal which can be transmitted via this telephone subscriber access line in the transmission direction, by a transmission path,

(a) wherein the transmission path comprises

a1) a digital POTS splitter comprising a digital low-pass filter for filtering the second voice signal and a digital high-pass filter for filtering the second data signal, wherein the digital POTS splitter joins together the second voice signal, which is in digital form, and the second data signal, which is in digital form, to form a digital transmission signal and can be set and varied by programming the filter coefficients of the digital low-pass filter and the digital high-pass filter, and

a2) a digital-to-analog converter being preceded by the digital POTS splitter, which converts the digital transmission signal to the analog second broadband signal to be transmitted in the transmission direction,

(b) wherein the reception path, which carries the first analog broadband signal,

b1) is subdivided into an analog path for voice signals and a path, which is separate from this, for data signals,

b2) wherein an analog-to-digital converter is provided at the end of each of these two paths for conversion to respectively corresponding digital signals, and

b3) wherein a balance filter, which is driven by the second analog broadband signal, is arranged between the transmission path after the output of the digital-to-analog converter and the subtraction input of a subtraction element, which is connected upstream of the analog-to-digital converter in the separate analog data signal path of the reception path.